

# TECH TIPS

Here are the editor's choices for this month's **Tech Tips**. Each of these contributors will receive an official AutoSports racing jacket from **TRW Inc.**

Congratulations! Keep those tips coming.

## REFRIGERANT TANK RECYCLING

**Many garages have used empty refrigerant tanks as portable pressure tanks over the years.** We found another good use for these tanks. We evacuate them with an air conditioning evacuation pump just as we would evacuate an air conditioning system. We also cut one fitting off an old manifold gauge hose and attach it to the bottle.

Then when we need to drain away old, used fluids like brake fluid, we simply place the hose in the fluid and open the valve on the tank. The fluid is sucked into the tank. This is much cleaner and neater than using an old leaky squeeze bottle. This also leaves the old fluids trapped in a leak-proof container where they can't spill onto painted surfaces, and keeps them safely stored until we can properly dispose of them.

We're also careful to mark the waste containers so no one mistakes them for a fresh tank when they go to charge an air conditioning system!

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## DIESEL GLOW PLUG QUICK CHECK

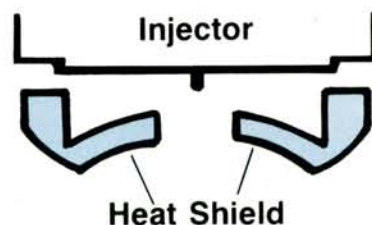
**Rather than going through all the work of removing the injectors on a Volkswagen diesel to check for proper glow plug operation, we check them in the car with a clamp-on, inductive ammeter.** We've found that each glow plug should draw 9 amps, or a total of 36 amps for all four cylinders. Initial current draw may be quite a bit higher when the glow plugs are first turned on, but should stabilize

at 36 amps after a few seconds of operation.

A current draw above 36 amps can damage the glow plug relay or blow the fusible link. When the current draw is too high, you'll have to check each glow plug individually to find out which glow plug, (or plugs) is bad.

If total amp draw is below 36 amps, remove the buss bar between the glow plugs. Attach a test light to the positive terminal of the battery and touch the tip of the test light to each individual glow plug. If the light doesn't come on, the glow plug is open.

If you remove a bad glow plug and find part of the tip missing, there's a good possibility that the injector on that cylinder has a bad spray pattern. On very high mileage cars you may find that all the injectors are dirty, and that a complete injector service is needed. But whatever you do, if you find a damaged tip on a glow plug, check that particular injector. If the bad spray pattern is not fixed, the new glow plug may be ruined in a short time.



One final note. Make sure you install the injector heat shield right side up. We've seen many cars with the heat shields installed upside down.

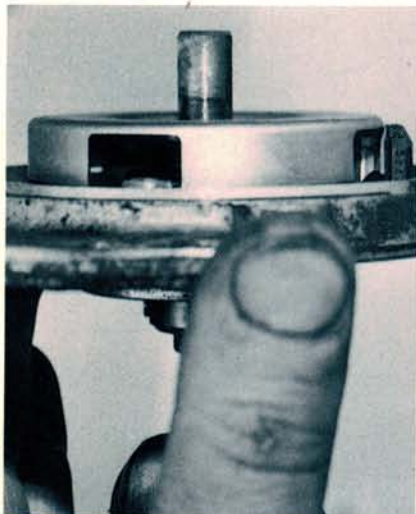
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## VOLVO MYSTERY MISS

**On 1985 and newer Volvo cars, you may see symptoms of an intermittent ignition miss** that leaves you scratching your head. The miss is a small one and doesn't occur all the time. Fuel and ignition systems

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may pass all the tests, but the symptoms persist.



Remove the distributor cap and check for interference between one of the trigger windows and the pickup. The distributor rotors on these cars are very hard to remove, and someone may have tried to pry it off, bending the trigger window. This interference can cause a miss. It also throws up very fine, hairlike metal shavings that get magnetized and stick to the pickup.

After correcting the interference problem, be careful to remove all the shavings, or you'll still have an intermittent misfire.

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## **PORSCHE 911 BRAKE WARNING LIGHT**

**After replacing the brake pads on a Porsche 911 with power assisted brakes, the brake warning light will come on.** To reset it, disconnect the battery ground strap for one minute. If you haven't provided an alternate power source for the radio memory presets during this time, you'll have to re-enter the memory presets when you reconnect the battery terminal.

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